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Response to Office Action Dated 11/16/2006

REMARKS

A review of the claims indicates that:

- A) Claims 3, 6 and 7 remain in their original form.
- B) Claims 1 and 4 are currently amended.
- C) Claims 5, 24 and 25 are previously presented.
- E) Claims 2, 8—23, 26, 27 are cancelled.
- D) Claims 28—45 are new.

In view of the following remarks, Applicant respectfully requests reconsideration of the rejected claims and withdrawal of the rejections.

Withdrawn Claims 24 and 25

Claims 24 and 25 were in Group I of the Restriction Requirement mailed 11/25/2005. While Group I was elected, Claims 24 and 25 were mistakenly withdrawn. Due to realization of this error, Claims 24 and 25 are currently reinstated as "Previously Presented".

Traversal of the §103 Rejections

Claims 1 and 3—7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. 2004/0126635 A1, hereinafter "Pearson" in view of U.S. 2003/0175566 A1, hereinafter "Fisher". In response, the Applicant respectfully traverses the rejection.

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1 **Claim 1** recites a fuel cell system, configured to control temperature by
2 regulating serial vs. parallel configuration of fuel cells within the system, the
3 system comprising:

- 4 • first and second fuel cells capable of providing an electrical output;
5 and
- 6 • a controller configured for regulating temperature of the fuel cell
7 system by controlling serial vs. parallel configuration of the first
8 and second fuel cells, wherein the controller is configured to
9 identify whether more or less heat is required, and wherein the
10 controller is in communication with:
 - 11 • a switch circuit comprising one or more switches for arranging
12 the electrical output of the first fuel cell and the electrical output
13 of the second fuel cell in parallel or series; and
 - 14 • a temperature measurement circuit capable of measuring the
15 temperature of the first fuel cell or the second fuel cell and
16 providing a signal to the controller;
- 17 • wherein the controller utilizes the switch circuit to switch to a more
18 serial configuration if more heat is required and switches to a more
19 parallel configuration if less heat is required.

20 Claim 1 has been amended to recite "regulating temperature of the fuel cell
21 system by controlling serial vs. parallel configuration of the first and second fuel
22 cells". The references of record fail to teach or suggest regulation of temperature
23 using regulation by controlling serial vs. parallel configuration of fuel cells within
24 a system.

25 The Pearson reference teaches that fuel cells may be configured in a variety
of serial and parallel configurations. Pearson teaches that the serial vs. parallel
configuration may be changed to provide a variety of power outputs (see, e.g.,
Pearson at the Abstract).

Pearson does not teach or suggest regulating temperature of a fuel cell
system by controlling a serial vs. parallel configuration of the cells. Instead,
Pearson teaches that fuel cell temperature can be controlled by returning water to
the fuel cell stack, as discussed, for example, at paragraph [0051]. Thus, while

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1 Pearson clearly teaches and practices reconfiguring fuel cells in serial and parallel
2 configurations, Pearson does not teach or suggest such configurations for
3 temperature regulation. Instead, Person teaches water-cooling.

4 Fisher teaches systems and methods of fuel cell operation. Fisher does not
5 teach or suggest regulating temperature of a fuel cell system by controlling a serial
6 vs. parallel configuration of the cells. Instead, Fisher teaches a method of fuel
7 cell temperature control involving airflow regulation (see air passage 66 in FIG. 2
8 and airflow regulating vane 253 in FIG. 3 and discussion at [0050] and other
9 locations). In particular, Fisher teaches the use of a temperature sensor 74 as part
10 of a fuel cell temperature regulation apparatus. Additionally, Fisher teaches that
11 fuel cell cooling is accomplished by regulation of an air passage 66 (see FIG. 2)
12 using a moveable vane 253 (see FIG. 3) which regulates the flow of air, and
13 therefore the cooling of the cells. Fisher discusses cooling at the bottom of [0050]
14 and other locations.

15 Neither reference of record, Pearson and Fisher, teaches or suggests the use
16 of serial vs. parallel fuel cell configuration as a tool to regulate fuel cell
17 temperature. Pearson, who other aspects of serial vs. parallel configuration and
18 reconfiguration, teaches that water return can be used to cool fuel cells. Fisher
19 teaches the use of air circulation to control fuel cell temperature. Thus, neither
20 reference of record teaches or suggests the use of parallel vs. serial fuel cell
21 configuration to control fuel cell temperature.

22 Because both references teach their own method and apparatus for
23 regulating fuel cell temperature, the references of record teach against
24 combination with the technology recited by the Applicant's claims (which neither
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1 teaches or suggests). That is, because the references each teach their own method
2 of fuel cell temperature control, they teach against adoption of the Applicant's
3 structures and methods.

4 Accordingly, the Pearson and Fisher references fail to teach or suggest the
5 elements recited by the Applicant's Claim 1. Moreover, both teach their own
6 method of fuel cell cooling, and teach against adoption of the Applicant's recited
7 structure (which they do not teach or suggest). Accordingly, the references are
8 deficient, and the Applicant respectfully requests that the Section 103 rejection be
9 withdrawn.

10 **Claims 3—7** depend from Claim 1 and are allowable as depending from an
11 allowable base claim, as well as for their recitation of elements not seen in the
12 prior art of record. These claims are also allowable for their own recited features
13 that, in combination with those recited in Claim 1, are neither taught nor suggested
14 in references of record, either singly or in combination with one another.

15 **Claims 24 and 25**

16 Claims 24 and 25 were part of Group I in the Restriction, but were not
17 examined due to their inadvertent withdrawn by the Applicant. Accordingly, these
18 claims have not been examined. In view of the RCE, the Applicant has pulled
19 these claims back into the case as "Previously Presented".

20 **New Claims**

21 The Applicant has cancelled a number of "Withdrawn" claims, and has
22 provided a number of new claims in their place. The Applicant submits that the
23 new claims are consistent with the Group I claims elected in the Restriction
24 Requirement. At this time, these claims have not been examined. However, the
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1 Applicant submits that they are allowable for at least the reasons that Claim 1 is
2 allowable.

3 Conclusion

4 The arguments presented above are intended to present the Applicant's
5 position clearly, but should not be considered exhaustive. Accordingly, the
6 Applicant reserves the right to present additional arguments to clarify the
7 Applicant's position further. Moreover, the Applicant reserves the right to
8 challenge the status as prior art of one or more documents cited in the Office
9 Action.

10 The Applicant submits that the claims as presented are in condition for
11 allowance. Accordingly, the Applicant respectfully requests that a Notice of
12 Allowability be issued. If the Patent Office's next anticipated action is not the
13 issuance of a Notice of Allowability, the Applicant respectfully requests that the
14 undersigned attorney be contacted to schedule an interview.

15 Respectfully Submitted,

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